

# ANNUAL REPORT OF THE OHIO ACADEMY OF SCIENCE

## 1962

Organized 1891  
Incorporated 1892  
Affiliated with the American Association for the Advancement of Science

### OFFICERS AND COMMITTEES FOR 1962-63

#### *President*

KENNETH E. CASTER

#### *Secretary*

GEORGE W. BURNS

#### *Treasurer*

ROBERT M. GIESY, III

#### *Director, Junior Academy*

G. GERALD ACKER

#### *Director, Visiting Scientists Program*

WILLIAM A. MANUEL

#### *President-Elect*

CHARLES A. RANDALL

#### *Director of Public Relations*

WILLIAM A. MANUEL

#### *Treasurer-Elect*

RICHARD S. DAVIDSON

#### *Assistant Director, Junior Academy*

ROBERT E. MCKAY

#### *Executive Secretary*

JOHN H. MELVIN

#### *Executive Vice-Presidents*

A. *Zoology*: E. E. DICKERMAN

B. *Plant Sciences*: K. J. NORSTOG

C. *Geology*: F. R. NAVE

D. *Medical Sciences*: E. OGDEN

E. *Physics and Astronomy*: E. L. JOSSEM

F. *Geography*: W. N. HARRIS

G. *Chemistry*: L. P. EBLIN

H. *Science Education*:

MRS. M. R. BOWMAN

I. *Anthropology and Sociology*:

J. K. BALOGH

J. *Conservation*: E. E. GOOD

K. *Genetics*: R. G. JAAP

#### *Membership Vice-Presidents*

A. *Zoology*: W. F. WALKER

B. *Plant Sciences*: C. W. HEIMSCH

C. *Geology*: G. W. FRANK

D. *Medical Sciences*: L. F. EDWARDS

E. *Physics and Astronomy*: A. B. STEWART

F. *Geography*: J. R. VILLMOW

G. *Chemistry*: D. R. SPESSARD

H. *Science Education*: MRS. N. M. SNYDER

I. *Anthropology and Sociology*:

O. H. PRUFER

J. *Conservation*: K. N. MORSE

K. *Genetics*: W. B. MCINTOSH

### COMMITTEES

#### *Executive*

K. E. CASTER, *Chm.*, G. G. ACKER, G. W. BURNS, W. G. GAMBILL, R. M. GIESY,  
W. A. MANUEL, R. A. POPHAM, G.-H. SMITH

#### *Nominating*

MEMBERS OF THE EXECUTIVE  
COMMITTEE

#### *Library*

*Academy Librarian*, MARY D. MCCOY, *Chm.*

W. G. GAMBILL . . . . . Term expires 1963

JACOB VERDUIN . . . . . Term expires 1965

#### *Publications*

G. W. BURNS . . . . . *Chairman*

W. G. GAMBILL . . . . . Term expires 1963

JACOB VERDUIN . . . . . Term expires 1965

#### *Resolutions*

A. G. LINSCHIED, *Chm.* . . . . Term expires 1963

W. E. SINGER . . . . . Term expires 1964

C. W. HEIMSCH . . . . . Term expires 1965

#### *Academy History*

R. W. DEXTER, *Chairman*

#### *Institution and Corporation Membership*

S. N. HALLOCK, *Chairman*

G. H. CROWL

E. F. PADDOCK

#### *Governor's Advisory*

R. P. GOLDTHWAIT, *Chairman*

G.-H. SMITH

J. H. MELVIN

#### *Education*

E. H. BUSH, *Chairman*

Committee being appointed.

#### *Program*

EXECUTIVE VICE-PRESIDENTS AND  
SECRETARY, *Chairman*

#### *Trustees of Research Funds*

H. C. EYSTER, *Chm.* . . . . Term expires 1964

R. S. DAVIDSON . . . . . Term expires 1963

R. H. DURRELL . . . . . Term expires 1965

*Necrology*

W. C. STEHR, *Chm.* . . . . . Term expires 1963  
 J. T. MADDOX . . . . . Term expires 1964  
 R. M. GIESY . . . . . Term expires 1965

*Ohio Flora*

T. R. FISHER, *Chairman*  
 E. L. BRAUN  
 J. A. HERRICK  
 G. W. BLAYDES  
 E. S. THOMAS  
 CLARA WEISHAUP

*Finance*

R. A. POPHAM, *Chairman*  
 R. J. ANDERSON  
 J. N. KNULL

*Constitution*

G. H. BROWN, *Chairman*  
 G.-H. SMITH  
 D. M. DELONG  
 R. P. GOLDTHWAIT

*Local Arrangements*

J. H. COOPER, *Chairman*  
 Committee being appointed.

*Academy Representatives*

1. On the Joint Administrative Board of The Ohio Journal of Science:  
 W. G. GAMBILL . . . . . Term expires 1963      JACOB VERDUIN . . . . . Term expires 1965
2. On the Executive Committee of the Ohio Biological Survey: D. M. DELONG
3. On the Advisory Board of the Edwin H. and Nellie M. Rausenberger Conservation Foundation: K. E. CASTER
4. On the Council of the American Association for the Advancement of Science: G.-H. SMITH, G. G. ACKER (Alternate) (Terms expire 1964)
5. Representatives to The Academy Conference: G. G. ACKER, G.-H. SMITH (Terms expire 1964)

*The Council for 1962-63*

ACKER, G. G.  
 BALOGH, J. K.  
 BOWMAN, MRS. M. R.  
 BROWN, G. H.  
 BURNS, G. W.  
 BUSH, E. H.  
 CASTER, K. E.  
 COOPER, J. H.  
 DAVIDSON, R. S.  
 DELONG, D. M.  
 DEXTER, R. W.  
 DICKERMAN, E. E.  
 EBLIN, L. P.  
 EDWARDS, L. F.  
 EYSTER, H. C.  
 FISHER, T. R.

FRANK, G. W.  
 GAMBILL, W. G.  
 GIESY, R. M.  
 GOLDTHWAIT, R. P.  
 GOOD, E. E.  
 HALLOCK, S. N.  
 HARRIS, W. N.  
 HEIMSCH, C. W.  
 JAAP, R. G.  
 JOSSEM, E. L.  
 LINSCHIED, A. G.  
 MANUEL, W. A.  
 MCCOY, MRS. M. D.  
 MCINTOSH, W. B.  
 MCKAY, R. E.  
 MORSE, K. N.

NAVE, F. R.  
 NORSTOG, K. J.  
 OGDEN, E.  
 POPHAM, R. A.  
 PRUFER, O. H.  
 RANDALL, C. A.  
 SMITH, G.-H.  
 SNYDER, MRS. N. M.  
 SPESSARD, D. R.  
 STANSBERRY, D. H.  
 STEHR, W. C.  
 STEWART, A. B.  
 VERDUIN, J.  
 VILLMOW, J. R.  
 WALKER, W. F.

## REPORT OF THE SEVENTY-FIRST ANNUAL MEETING OF THE OHIO ACADEMY OF SCIENCE

The 71st annual meeting was held on the campus of The University of Toledo May 3, 4, and 5, 1962. Previous meetings of the Academy were held in Toledo in 1936 and 1945.

A total of 542 persons registered for the meetings of the senior division. The local committee on arrangements, under the able chairmanship of Dr. Archie N. Solberg, efficiently planned and conducted a successful and enjoyable event.

The Executive Committee, the Council, and the Committee on Election of Fellows met on May 3; their reports are found elsewhere in this Annual Report. On Friday, May 4, the eleven sections held some 23 separate sessions at which were presented 173 research papers and symposia. On May 5, field trips were conducted by the sections of Conservation and Geology.

Throughout Friday, the Junior Academy sponsored the Fourteenth Annual State Science Day, in which students from 257 schools entered 579 projects.

The annual banquet and business meetings were held Friday evening in the Student Union Building with Dr. Nicholas Mogendorff serving as toastmaster. Dean Archie N. Solberg, representing President William S. Carlson, extended official greetings from The University of Toledo and the response was made by Dr. Glenn H. Brown, most recent past-president of the

Academy. Dr. Guy-Harold Smith, President of The Ohio Academy of Science, delivered the presidential address, "A Cartographic Cavalcade." Dr. Smith presented the Charles F. Kettering Foundation, represented by Mr. Allen J. Martin, with Patron membership in the Academy. He also presented Ten-Year Institutional Membership Awards to Antioch College and Western Reserve University and a Ten-Year Corporation Membership Award to Republic Steel Corporation. Professor G. G. Acker, Director of the Junior Academy, announced awards to outstanding high school science teachers as well as the Outstanding Biology Teacher Award for Ohio. At the business meeting, officers were elected for the coming year as listed at the opening of this report. Twenty-nine members of the Academy were announced as newly elected Fellows. Their names and sectional affiliations follow:

*Anthropology & Sociology (I)*

WILLIAM H. HARLAN  
NANCY M. KRUEGER  
ARTHUR GALE NEAL  
OLAF H. PRUFER

*Conservation (J)*

JAMES D. WELLS

*Geology (C)*

HORACE R. COLLINS  
ERNEST G. EHLERS  
DONALD W. FARNSWORTH  
WILLIAM R. FARRAND  
ANSEL M. GOODING  
RICHARD D. HOARE  
WILLARD P. LEUTZE

*Geology (C) (Continued)*

ROY H. REINHART  
MRS. NELLIE RICH  
DONALD P. URBAN  
HENRY E. WENDEN

*Geography (F)*

JACK R. VILLMOW

*Medical Sciences (D)*

GEORGE SAYERS

*Physics & Astronomy (E)*

HOWARD E. BALES  
MYLON EUGENE MERCHANT  
WILLIAM R. RILEY  
ALBERT B. STEWART  
ANDREW R. WEBER

*Plant Sciences (B)*

CHARLES W. HEIMSCH

*Science Education (H)*

GEORGE CLARK, JR.  
FREDERICK L. DAFLER  
SISTER MARY JOSEPH  
FLOYD R. WEST

*Zoology (A)*

THEODORE W. CUNNINGHAM

JOHN H. MELVIN, *Acting Secretary*

## REPORT OF THE EXECUTIVE COMMITTEE AND THE COUNCIL

The Executive Committee met June 10, July 8, September 23, November 11, December 1, January 20, February 24, March 31, and May 3; the Council met December 2 and May 3.

1. *Meetings of the Executive Committee.*—In addition to attending to the voluminous regular business of the Academy, the Executive Committee: Accepted the resignation of Executive Secretary Hobbs and employed, in October, John H. Melvin; received a \$23,000 grant from the National Science Foundation for the third year's operation of the Visiting Scientists Program; appointed Dr. W. A. Manuel for a third year as Director of that program; received a grant of \$7,735 from the National Science Foundation, \$500 from the Columbus Foundation, and \$150 from the Columbus Technical Council for support of work of the Junior Academy; reappointed G. Gerald Acker as Director and Robert E. McKay as Assistant Director of the Junior Academy; sought unsuccessfully to obtain additional grants from the Ford Foundation, Carnegie Foundation, and Kettering Foundation; co-sponsored with the Ohio Chamber of Commerce, Battelle Memorial Institute, and others, a state-wide meeting for scientists and industrialists on radioisotopes as new tools for Ohio industry, and co-sponsored with AAAS a series of outstanding Easter lectures for talented high school students in the Cincinnati area.

2. *Meetings of the Council.*—Reports were made by the officers and committee chairmen; their annual reports are presented in the pages following.

Council elected the Charles F. Kettering Foundation a Patron of the Academy in recognition of the important support furnished by that organization, elected 29 members to Fellowship in the Academy (their names are listed elsewhere in this report), accepted the report of the Committee on Training and Certification of Science Teachers, which appears elsewhere in this report, and accepted the invitation of Ohio University to hold the 1965 meeting at Athens.

JOHN H. MELVIN, *Acting Secretary*

## REPORT OF THE TREASURER

Herewith is submitted a financial statement of The Ohio Academy of Science as of December 31, 1961. The statement is a true copy of the financial statement certified by our auditor, Mr. Robert W. Moore, 1500 West Third Avenue, Columbus 12, Ohio. A copy of the auditor's report is on file at the Academy's central office.

THE OHIO ACADEMY OF SCIENCE  
Columbus, Ohio

### EXHIBIT A COMPARATIVE STATEMENT OF FINANCIAL CONDITION

As of December 31, 1961 and 1960

## ASSETS

	1961	1960	Increase (Decrease)
<b>CASH</b>			
Cash in bank (Huntington National).....	\$ 994.53	\$ 7,083.00	\$ (6,088.47)
Cash deposit (Securities broker).....	14,057.26		14,057.26
Total Cash.....	\$15,051.79	\$ 7,083.00	\$ 7,968.79
<b>INVESTMENTS</b>			
American Telephone and Telegraph Co.....	300.00	300.00	
BancOhio Corporation.....	647.64	566.64	81.00
Metro-Goldwyn-Mayer.....	6,995.95		6,995.95
Alden's Inc.....		5,926.88	(5,926.88)
Modern Finance Company.....	27,000.00	20,000.00	7,000.00
Economy Savings and Loan Company.....		15,000.00	(15,000.00)
Loveland Mutual Building and Loan.....	10,000.00		10,000.00
Total Investments.....	44,943.59	41,793.52	3,150.07
<b>TOTAL ASSETS.....</b>	<b>\$59,995.38</b>	<b>\$48,876.52</b>	<b>\$11,118.86</b>

## ENCUMBRANCES AND SURPLUS

<b>ENCUMBRANCES</b>			
Employees withholding taxes.....	\$ 320.00		\$ 320.00
Dues received in advance.....	1,496.00		1,496.00
Gifts received in advance.....	500.00		500.00
Research fund.....	2,041.95	\$ 2,741.95	(700.00)
Endowment fund.....	4.00		4.00
National Science Foundation grants:			
# 9232 (Ohio Flora).....	10,800.50	8,846.14	1,954.36)
# 9714 (Ohio Flora).....		2,118.28	(2,118.28)
#12396 (Visiting Scientists).....		17,117.44	(17,117.44)
#12442 (Science Days).....	622.16	3,875.92	(3,253.76)
#17247 (Science Days).....	20,064.64		20,064.64
#17013 (Visiting Scientists).....	1,546.08		1,546.08
Total Encumbrances.....	\$37,395.33	\$34,699.73	\$ 2,695.60
<b>SURPLUS</b>			
Unencumbered.....	22,600.05	14,176.79	8,423.26
<b>TOTAL ENCUMBRANCES AND SURPLUS.....</b>	<b>\$59,995.38</b>	<b>\$48,876.52</b>	<b>\$11,118.86</b>

EXHIBIT B STATEMENT OF REVENUE AND EXPENDITURES  
For the year ended December 31, 1961

<b>REVENUE</b>			
Membership dues:			
Individuals.....	\$ 5,265.00		
Corporations and institutions.....	2,500.00		\$ 7,765.00
Gifts:			
Kettering Foundation.....	15,000.00		
Rike Kumler.....	25.00		
Columbus Technical Council.....	150.00		
C. M. Goethe.....	50.00		
Others.....	1.00	15,226.00	
Junior Academy revenue.....			2,622.50
Interest earned:			
Economy Savings and Loan.....	385.00		
Loveland Mutual Building and Loan.....	233.33		
Modern Finance Company.....	989.17		1,607.50
Dividend income:			
American Telephone and Telegraph Co.....	10.36		
Aldens, Inc.....	30.00		
BancOhio Corp.....	76.00		
Metro-Goldwyn-Mayer.....	80.00		
Reynolds Tobacco Company.....	140.00	336.36	

Other income:		
Special paper sale.....	74.13	
Services performed.....	396.97	
Gain on sale of investments.....	4,652.14	
Administration fee—N.S.F. Grants.....	3,896.69	9,019.93
<b>TOTAL REVENUE.....</b>		<b>\$36,577.29</b>
<b>EXPENDITURES</b>		
Salaries—executive secretary and clerical.....	\$11,472.50	
Part-time help and services.....	1,264.14	
Advertising.....	78.11	
Brochures and programs.....	47.51	
Engraving and printing.....	1,379.14	
Honorariums.....	300.00	
Outstanding teacher award.....	82.00	
Office supplies and expense.....	2,339.64	
Postage.....	716.26	
Telephone and Telegraph.....	696.89	
Travel expense.....	650.49	
Equipment purchased.....	347.29	
Legal and accounting.....	299.00	
Payroll taxes.....	379.25	
Executive Secretary—moving expense.....	500.00	
Other costs.....	188.79	
Newsletter.....	2,985.58	
<i>The Ohio Journal of Science</i> .....	3,794.90	
Junior Academy.....	632.54	
<b>TOTAL EXPENDITURES.....</b>		<b>28,154.03</b>
<b>EXCESS OF REVENUE OVER EXPENDITURES.....</b>		<b>\$ 8,423.26</b>

ROBERT M. GIESY, *Treasurer*

## REPORT OF THE ACADEMY LIBRARIAN

	1960-61	1961-62
FOREIGN EXCHANGES.....	410	414
DOMESTIC EXCHANGES.....	135	137
Total Exchanges.....	545	551
NEW EXCHANGES		
Foreign.....	12	8
Domestic.....	9	2
DROPPED		
Foreign.....	3	4
Domestic.....	3	0
SPECIAL PAPERS SOLD.....	43	3
Revenue.....	\$46.33	\$2.55*

\*Monies from the sale of "Special Papers" turned over to the Treasurer.

MARY D. MCCOY, *Librarian*

## REPORT OF THE JOINT ADMINISTRATIVE BOARD OF THE OHIO JOURNAL OF SCIENCE

The annual meeting of the Joint Administrative Board of The Ohio Journal of Science was held at Columbus on April 28, 1962. The meeting was called to order by Board Chairman Gambill. Present were Dr. R. H. Davidson and Dr. M. P. Weiss representing The Ohio State University; Dr. W. G. Gambill and Dr. Jacob Verduin representing The Ohio Academy of Science; as well as Dr. H. L. Plaine, Dr. R. A. Popham, and Dr. David Stansbery of *The Ohio Journal of Science* staff.

Minutes of the last meeting were approved as read.

Dr. W. G. Gambill was re-elected Chairman of the Board for the year 1962-63.

The report of the Business Manager was approved as read. This report, which accompanies these minutes, is mainly in the form of a financial statement for Volume 61. Dr. Popham

reported that (1) circulation of the Journal increased from 2,454 to 2,604 during the year, (2) the total average cost per page for publishing the Journal decreased from \$20.00 for vol. 60 to \$18.91 for vol. 61 and that (3) the Journal will probably be able to operate during 1962 on its regular sources of revenue.

The report of the Editor, Dr. Plaine, was approved as read. A copy of this report is attached to these minutes. The Editor indicated that the Journal is behind its publication schedule. The January issue should be in the mailing room on May 3 and the March issue should be ready for distribution by May 30. It is anticipated that the publication of issues of the Journal will be on schedule before the end of the summer. Dr. Plaine further stated that more manuscripts could be handled at this time and that publication of papers submitted at this time would occur within approximately four months from the time of receipt. During a period of discussion, causes of delay in publication of the Journal were examined and measures were suggested which would lead to the elimination of such a problem in the future. Dr. Stansbery enumerated several changes in procedure in the editorial offices which will speed up the handling of manuscripts and improve the quality of manuscripts. It was apparent from the discussion that Dr. Stansbery is handling editorial matters in a most efficient manner.

Dr. Plaine, who was first elected Editor of the Journal on April 14, 1956, asked to be relieved of his duties and asked not to be reappointed. Personal problems and academic pressures were given as causes for his request. Dr. Plaine offered his continued services as adviser to the next Editor for as long as they are required. The Board expressed its thanks for the competent manner in which Dr. Plaine has handled the duties of Editor.

The following staff members were elected for the year 1962-63: Dr. David Stansbery, Editor; Dr. R. A. Popham, Business Manager; and Dr. T. H. Langlois, Book Review Editor.

Dr. Gambill urged all of The Ohio State University members of the Board to seek an Associate Editor and to report to him as soon as sufficient information concerning prospects is available. Dr. Gambill stated that he would then canvass all Board members and a mail vote would be taken on nominations for the position of Associate Editor.

There being no further business the Board adjourned.

RICHARD A. POPHAM, *Secretary of the Board*

## THE OHIO JOURNAL OF SCIENCE

### BALANCE SHEET

	Vol. 59 Fiscal Year 1/1/59 12/31/59	Vol. 60 Fiscal Year 1/1/60 2/12/61	Vol. 61 Fiscal Year 2/12/61 2/19/62
<b>RECEIPTS</b>			
Bank balance at beginning of period.....	\$ 3,230.08	\$ 2,686.20	\$ 3,226.40
O.S.U.—paid for subscriptions.....	2,750.00	3,000.00	3,000.00
O.A.S.—paid for subscriptions.....	2,150.00	2,292.50	2,961.00
Non-members—Paid for subscriptions.....	739.00	755.00	970.50
Separate numbers, volumes and reprints sold.....	430.36	759.60	1,189.60
50 year index sold.....	15.00	0.00	15.00
O.A.S.—paid ½ cost of plates.....	227.99	429.35	453.30
O.A.S.—paid for annual report.....	191.16	219.38	234.60
Miscellaneous.....	1,062.60	187.80	2,480.00
Advertisements.....	406.38	637.61	279.60
O.A.S.—gift.....	0.00	500.00	0.00
	<b>\$11,202.57</b>	<b>\$11,467.44</b>	<b>\$14,810.00</b>
<b>EXPENDITURES</b>			
Spahr and Glenn—printing O.J.S.....	\$ 5,824.57	\$ 6,174.96	\$ 6,411.81
Engraving—plates.....	858.70	917.07	442.48
Postage and express.....	248.34	278.90	349.58
Labor.....	283.50	4.75	0.00
Editor's office.....	0.00	338.27	403.50
Office expenses and bank charges.....	26.77	28.44	94.80
Advertising of the O.J.S.....	0.00	15.00	15.00
Reprints.....	53.37	74.65	163.53
Mailing envelopes.....	0.00	360.05	0.00
Refunds.....	0.00	6.50	0.00
Miscellaneous.....	1,221.12	42.45	2,496.88
Bank balance at end of period.....	2,686.20	3,226.40	4,432.42
	<b>\$11,202.57</b>	<b>\$11,467.44</b>	<b>\$14,810.00</b>

THE OHIO JOURNAL OF SCIENCE

REPORT OF THE EDITOR OF VOLUME 61, 1961,  
to the Joint Administrative Board  
April 28, 1962

Volume 61 of *The Ohio Journal of Science* contained 408 pages, of which 352 pages were devoted to 50 scientific papers in 10 areas (as designated by sections of The Ohio Academy of Science); 18 pages were devoted to affairs of the Academy; 10 pages to advertising; and 28 pages to announcements, book notices, the index and table of contents, and routine journal format. Twenty-four book notices were published during the year. Thirty percent of the published papers originated at The Ohio State University; forty-six percent were from other sources within the state; and twenty-four percent came from sources outside Ohio.

We wish to thank the various members of the Academy, as well as our several colleagues who are not members, for their generous service as reviewers or referees.

HENRY L. PLAINE, *Editor-in-Chief*

Distribution by Field of Articles Published in 1961

Field	No. of Articles	Total Pages	Percent
Anthropology and Sociology	2	26	7.4
Chemistry	4	29	8.2
Geography	1	6	1.7
Geology	9	92	26.2
Medical Sciences	1	15	4.3
Physics and Astronomy	2	28	7.9
Plant Sciences	7	37	10.5
Science Education	4	24	6.8
Zoology	18	89	25.3
Genetics	2	6	1.7
	50	352	100.0
Other			
Academy Notices	4	3	
Book Notices	24	6	
Annual Report of The Ohio Academy of Science		15	
Table of Contents		4	
Index		2	
Advertising		10	
Journal Format		16	
Number of pages		56	
Total number of pages in Volume 61:		408	

REPORT OF THE DIRECTOR OF PUBLIC RELATIONS

Dr. John Coash accepted election as Director of Public Relations with the understanding that he would only serve until June 10, 1961. In October, the Executive Committee asked the Executive Secretary to assume these duties until the next Annual Meeting.

Dr. Coash was very effective in getting the name of the Academy before the people of the state. Our newspaper-clipping albums testify that we are news wherever we meet or wherever we send our visiting scientists or carry on Junior Academy activities.

In March, Northwestern University, with assistance from the National Science Foundation, conducted a Midwestern Science Communications Seminar for Public Information Specialists. This three-day meeting was designed to explore ways to increase the public's understanding of science. A number of our members were speakers—Chauncey Leake, Paul Sears, Allen Hynek. Public relations directors from Ohio State, Kent State, Wittenberg, University of Cincinnati, University of Akron, and from similar institutions throughout the midwest were in attendance. Your Executive Secretary was fortunate enough to be one of the 60 selected and learned much about the problems of science and public relations.

The Academy has continued to make news and to receive favorable coverage, sometimes preparing our own news releases, sometimes encouraging others to do so.

JOHN H. MELVIN, *Acting Director of Public Relations*

REPORT OF THE JUNIOR ACADEMY,  
THE OHIO ACADEMY OF SCIENCE

The National Science Foundation supported the 1961-62 program of the Junior Academy with a grant in the amount of \$7,735. These funds in addition to those provided by the Academy were used to finance the normal activities of the Junior Academy and to improve certain weak phases of our operation.

Important events in the year's activity include: 1. Revision of the Judging Criteria for our Science Days. 2. Negotiation for improvement of our scholarship program. 3. Sponsorship of Junior Science exhibits at the Ohio State Fair. 4. Expansion of the Junior Academy Session for oral presentation of projects by high school students. 5. Continued expansion of the Science Day Program at local level in order to screen projects prior to District competition. This resulted in better quality projects at the District Science Days.

A grant for partial support of our 1962-63 program has been received from the National Science Foundation.

SECTION I ORGANIZATION

A. DISTRICT organization remains the same as 1960-61.

B. COMMITTEES:

1. *Judging*: The Judging committee, R. E. McKay, chairman, submitted a proposal to revise our judging system by:

- a. Adopting a point system.
- b. Consolidating criteria into four categories.

This proposal, after revision, was adopted.

2. *Outstanding Teacher*: This committee, A. G. McQuate, chairman, suggested that a new method of selecting outstanding teachers involving a state level selection committee be adopted. No action was taken on this proposal.

3. *Space Allocation*: Rudolph Gerlach, chairman. This committee presented a plan for allocation of space at State Science Day based upon the number of participants at the 1961 District Science Days. Each district was allocated a percentage of its 1961 participation which was reduced according to quality of projects sent to State Science Day.

SECTION II AFFILIATED LOCAL SCIENCE DAYS

The total number of Science Days affiliated with the Junior Academy is 158. There are more than 400 schools represented by these organizations and participation includes all grades from kindergarten to 12th grade. Reports from 80 of these Science Days show that 12,000 students participated and 70,000 persons viewed the exhibits.

SECTION III DISTRICT SCIENCE DAYS

A total of 6012 students from 609 schools exhibited projects for judging at the ten District Science Days. Procedures for reducing the number and increasing the quality of projects were instituted by several districts.

DISTRICT SCIENCE DAY DATA

	No. of Projects	No. of Students	No. of Schools
March 24			
East, Muskingum College	238	270	20
March 31			
Central, Ohio State University	586	598	87
April 1			
Northeast, Kent State University	886	886	111
West, Central State College	525	525	47
North, The Defiance College	232	232	29
April 14			
Southwest, Miami University	602	602	72
North Central, Heidelberg College	1020	1020	72
Southeast, Ohio University	583	647	55
Northwest, Bowling Green State University	798	798	74
April 21			
Mohican, Ashland College	434	434	42
TOTAL	5904	6012	609

SECTION IV STATE SCIENCE DAY

Students from 257 schools will present 579 projects for judging at the 1962 State Science Day at The University of Toledo. This represents approximately ten percent of the total participation at the District Science Day. The University Fieldhouse will house 540 pro-



jects and the remainder which require gas or water will be exhibited in the Engineering Science Building.

Sectional meetings will be suspended at 11:00 AM for judging of the projects. Briefing of the judges will take place in the rooms assigned for sectional meetings. The newly adopted point system will be used for the first time at a state wide event. This system worked well at district level. Entries by district are as follows: Southeast 27; East 34; Northeast 62; North Central 94; Central 93; Southwest 89; West 53; Northwest 77; North 10; Mohican 39. 258 projects or 45 percent of the total entries required one or more facilities (electricity, water, gas).

#### SECTION V OHIO ACADEMY OF SCIENCE NEWS

Mrs. Clara Kenney of Chillicothe served as Editor for Volume XIV of the Ohio Academy of Science News. Four issues with a total of twenty-six pages were published and distributed to members of the Academy, high school science teachers, and interested laymen. The February issue (No. 3) was designated as the Visiting Scientists Issue and was devoted principally to that program of the Academy. A complete revision of the mailing list of teachers was accomplished at the request of the directors of Science Day and Visiting Scientist NSF grants. The cost of this revision was charged equally to both grants.

#### SECTION VI SCHOLARSHIP TESTS

The Scholarship Tests will be administered by the testing service of The University of Toledo. Mr. William R. Zeitler, Columbus, is chairman of the committee for selection of recipients.

Negotiations are proceeding favorably in an effort to secure a cash scholarship from a prominent Ohio industrial corporation.

#### SECTION VII OUTSTANDING TEACHER AWARDS

The following teachers are the 1962 Outstanding Teacher Award winners:

Southeast: C. I. McClure, Marietta High School  
East: Howard Eaton, Harding School, Steubenville  
Northeast: Harold G. Marshall, Bedford  
North Central: Max Ross, Marion Catholic High School  
Central: Robert McBurney, Worthington  
Southwest: Mrs. Lillian McElroy, Mariemont  
West: Mrs. Josephine Randall, Fairborn  
Northwest: Albert Sikeres, Fostoria  
North:  
Mohican: Charles Vanderbilt, Mansfield Senior High School

#### SECTION VIII KRECKER AWARDS

The Frederick H. Krecker Awards sponsored by Battelle Memorial Institute were awarded to the following schools:

Southeast: Marietta High School  
East: Martins Ferry High School  
Northeast: Willoughby-Eastlake High School  
North Central: No qualified applicant  
Central: Bishop Watterson High School  
Southwest: Mother of Mercy High School, Cincinnati  
West: Catholic Central High School, Springfield  
Northwest: Findlay High School  
North: No qualified applicant  
Mohican: St. Peter's High School, Mansfield

#### SECTION IX STATE SCIENCE DAY AWARDS

For the second time in three years Pandora-Gilboa High School was the lone recipient of a State Science Day Award plaque. All five of the projects entered at the 1961 State Science Day were judged Superior. 27 schools are eligible to compete for the 1962 award.

#### SECTION X STATE FAIR EXHIBITS

The Junior Academy will sponsor the Junior Science Exhibits at the 1962 Ohio State Fair. Junior Science Exhibits will be displayed in the east end of the Youth Center Building. 100 projects will be exhibited. Invitations will be extended to personnel as follows: (1) National Science Fair Regionals (two winners from each fair). (2) Selected projects from State Science Day. (3) Selected projects from the major independent science days.

John Coontz, Marion Franklin High School, Columbus, and George Clark, Archbold High School are Co-Chairmen of the State Fair Committee. Each exhibitor will receive free admission to the Fair; two nights lodging in the youth dormitory and an appropriate trophy.

The National Aeronautics and Space Administration has promised timely displays to augment the high school exhibits.

## SECTION XI JUNIOR ACADEMY SESSION

Mary Sue Fiser, Archbold High School, and Glenn Thompson, Libbey High School, Toledo, will preside at the second Junior Academy Session. There were 4 papers presented at the first session at the University of Cincinnati last year.

Irwin Slesnick, University School, The Ohio State University, reports that eight projects have been selected for oral presentation this year.

## SECTION XII PERSONNEL

Changes in personnel of the Junior Academy have been made as follows:

Southeast—C. I. McClure, Marietta High School

Henry H. Vallowe, Department of Zoology, Ohio University

East—Charles Coyle, Zanesville High School

Rudolph Gerlach, Dept. of Physics, Muskingum

Northeast—Mrs. Naomi Snyder, Parma High School

George R. Easterling, Dept. of Biology, Kent State

North Central—Eugene Rayle, Mohawk High School, Sycamore

Howard R. Hintz, Dept. of Biology, Heidelberg

Central—John R. Coontz, Marion Franklin High School, Columbus

Mathew C. Dodd, Dept. of Microbiology, Ohio State

Southwest—John Voigt, Franklin High School

Northwest—Miss Eleanor Longbrake, Toledo City Schools

North—Carl Thoburn, Defiance High School

Mohican—Kenneth Bonsell, Avon Lake High School

Special Awards Committee—Floyd R. West, Bexley High School, Chairman

Junior Academy Session Advisory Committee—Irwin Slesnick, Univ. School, The

Ohio State University, Chairman

State Fair Committee—John Coontz, and George Clark, Co-chairmen

## SECTION XIII MISCELLANEOUS

Owens-Illinois Glass Company donated a set of glassware, a pitcher and four glasses, for each participant at State Science Day.

Director, Junior Academy, attended the AAAS meetings in Denver where he presided over the session on Junior Academies and was elected to the office of President Elect of the Academy Conference.

Director, Junior Academy served on the committee of National Association of Biology Teachers for selection of the recipient of the Outstanding Biology Teacher award for the State of Ohio. This award was presented at the Annual Banquet of the Academy to Miss Eleanor R. Bauer, John Marshall High School, Cleveland.

The film "Friendship VII" depicting Lt. Col. John Glenn's orbital flight was shown at State Science Day. This was the first showing to a live audience in Northwest Ohio since it was released. It had been shown on TV previously.

## REPORT OF TRUSTEES OF THE RESEARCH FUND

RESEARCH FUND Balance, January 1, 1961.....\$2,741.95

## REVENUE

American Association for Advancement of Science Grant..... 400.00

Total Beginning Balance and Revenue.....\$3,141.95

## GRANT EXPENDITURES

Joseph Bagshaw, Polymerization and Coacervation of Amino Acids Under Primitive Conditions.....\$ 50.00

Dr. Percy L. Lilly, Non-woody Ranales, the Chenopodioles and Caryophylloles... 200.00

Dr. Malcolm P. Weiss, Stratigraphy and Petrology of Flagstaff Limestone in Utah..... 400.00

Dr. Paul S. Stokely, Effects of Growth Compounds on Reconstitution in Planaria.. 75.00

James E. Bugh, Glacial Geology of Hancock County..... 50.00

Douglas N. Swanson, Geologic Mapping of Hancock County..... 50.00

Ronald L. Brooks, Glacial Geology, Hancock County..... 50.00

Milford M. Schrecongost, Sedimentation in Sandusky Bay..... 150.00

Patricia A. Lengel, Thalictrum in Ohio..... 75.00

Total Expenditures..... 1,100.00

RESEARCH FUND Balance, December 31, 1961.....\$2,041.95

ERNEST H. CHERRINGTON, JR., *Chairman*

## REPORT OF THE FLORA COMMITTEE

During the past year significant progress has been made in several areas of the flora project. Volume I, "The Monocots of Ohio" by Dr. E. L. Braun is progressing satisfactorily. Dr. Clara Weishaupt is monographing the grasses of Ohio for that project.

Dr. William Gambill, Ohio University, is progressing satisfactorily on the "Rosales of Ohio" which will become a major contribution toward Volume II. He is being ably assisted by Mr. Robert H. Gray and Mr. Charles O. Wingo, Jr. A further contribution to Volume II is being made by Dr. Percy Lilly of Heidelberg College by his study of the non-woody Ranales, specifically the Chenopodiales and the Carophyllales. Dr. Lilly's work has been supported, in part, by The Ohio Academy of Science.

The Pteridophyte project is again in progress after a year or more of delay. Mr. William Adams, Muskingham College, is in full charge of the investigation.

The "Compositae of Ohio" under the direction of Dr. T. Richard Fisher is in progress and is about one fourth finished. The asters of Ohio, a major contribution toward this volume, is being investigated by Mr. John Speer and should be finished by the fall of 1962.

The Campanulales by Mr. Robert Cruden and the Rubiales by Mr. Phillip Hauser have been completed. These smaller projects contribute greatly to the total efforts of the flora committee.

T. RICHARD FISHER, *Chairman*

## REPORT OF THE ACADEMY HISTORIAN

Since the last annual report, the Academy Historian has delivered to the sections involved a brief historical sketch of the academy with reference to the development of the sections of Chemistry and Science Education. The account given to the latter section was later published in *The Ohio Journal of Science* 61(4): 235-241. The series of historical reports will be completed at the Toledo meetings of 1962 with reports to the Section of Anthropology and Sociology and the Section of Conservation.

Given below is a summary of research grants awarded by the Trustees of Research Funds since 1944. Alexander (*Ohio J. Sci.* 41(4): 304) listed recipients from 1899-1940 inclusive. Osborn (*ibid.* 44(5): 213-218) outlined the history of research grants and, in addition to the names of those receiving grants, listed the project title or special purpose for which funds were provided from 1899-1944 inclusive. He also corrected some errors of the earlier list.

## GRANTS FROM ACADEMY RESEARCH FUNDS, 1945-61

1945. J. N. Wolfe, Ecological studies in the Hocking Valley; C. H. Sturgeon, Study of the Salem Limestone in eastern Ohio.
1946. M. T. Sturgeon, Stratigraphy of the Allegheny Series in Columbiana and Mahoning counties; H. T. Gier, Food habits of foxes of southeastern Ohio; E. Lucy Braun, Aid in typing manuscript for her book *Deciduous Forests of Eastern North America*.
1947. R. D. Wood, Publication of Caraceae of Put-in-Bay; Margaret Fulford, Studies of Hepaticae; H. T. Gier, Additional funds for food habits of foxes of southeastern Ohio.
1948. R. H. Bond, Conodonts in shale formations; J. R. Stratton, Experiments on guinea pigs; R. W. Dexter, Studies on fairy shrimps.
1949. J. F. Hopkins, Collecting peat samples in Canada; Josef Knull, for published illustrations.
1951. Ethel Miller, Indexing of *Ohio Naturalist* and *The Ohio Journal of Science*; Elizabeth W. Smith, Studies on endocrinology of bats; and the Ohio Flora Committee, E. L. Braun, Chm.
1952. Janice C. Beatley, The primary vegetation of Jackson and Vinton counties; William Adams, Jr., Ferns and fern allies of southeastern Ohio; and the Ohio Flora Committee, E. L. Braun, Chm.
1953. R. M. Crowell, Studies on water mites; L. M. Thomson, Reconstruction of giraffe skeletal material; Cecil Riser, Research on science education; Elizabeth W. Smith, Studies on reproductive physiology of bats; J. C. Beatley, Continued work on the primary forests of Clinton and Jackson counties, Ohio.
1954. E. W. Smith, Life histories of non-cave dwelling bats; Peter Chacharonis, Protozoa of sphagnum bog at Buckeye Lake; T. D. Howe, Woody plants of northwestern Ohio.
1955. H. G. Multer, Preparation of thin sections of Pennsylvanian rocks in Wayne County, Ohio; J. R. Coash, Glacial geology of Seneca County, Ohio; R. E. Woodruff, Scabaeidae of Ohio; H. C. Fritts, Analysis of radial growth and some soil factors affecting distribution of beech in a central Ohio forest; R. W. Long, Mass collections of Certain *Helianthus* species in Ohio; and the Ohio Flora Committee.
1956. R. M. Crowell, Studies on water mites; E. W. Smith, Studies on bats of Cincinnati.
1958. W. R. Tinker, III, Studies in geology; T. D. Erickson, Studies in geology; J. H. Kantrowitz, Studies in geology; Weston Blake, Jr., Purchase of geological air photographs.

1959. R. W. Long, Studies of Compositae of Ohio; T. R. Fisher, Studies of Compositae of Ohio; H. R. Eggleston, Unionidae of Ohio; J. P. Toy, Metabolic pathways of certain Ascomycetes.
1961. P. L. Lilly, Studies on Ranales, Chenopodiales, and Caryophyllales; E. J. Karlin, Ecological study of carnivorous snails from Hawaii; Joseph Bagshaw, Polymerization and coacervation of amino acids under primitive conditions; M. P. Weiss, Studies on Flagstaff limestone in Utah; P. S. Stokely, Effects of growth compounds on reconstitution in Planaria.

RALPH W. DEXTER, *Chairman*

## REPORT OF DIRECTOR OF VISITING SCIENTISTS PROGRAM

During 1961-2 there has been a healthy growth in all phases of the Visiting Scientists Program. We planned for a total of 300 visits, and by the close of the season we shall have made about 350, as compared with 206 in 1960-1. Last year we had a roster of 139 Visiting Scientists—this year 252. Last year we had a grant of \$21,970 and lived within it. For 1961-2 our grant was \$23,000 and we shall live within it. Last year we visited 66 out of the 88 counties of the State. This year we have visited 84.

Continuation of the Visiting Scientists Program for 1962-3 is assured by a grant of \$23,000 from N.S.F. New subject matter areas in which we hope to make visits are: engineering, mathematics, and sociology. Many requests for visits in 1962-3 have already been received and tentatively scheduled.

The scientists and engineers of the Ohio colleges, research institutions, and industries have cooperated most generously in making the Visiting Scientists Program the great success which the schools and visitors have reported it to be.

W. A. MANUEL, *Director*

## REPORT OF THE COMMITTEE ON INSTITUTION AND CORPORATION MEMBERS

Today we have 18 Institution, 4 Foundation, and 13 Corporation Members for a total of 35. A year ago we had 24, so we have an increase of over 40 percent. Each of these members contributed \$100.00 or more annually in money or other services to the Academy. The November issue of *The Ohio Journal of Science* each year carries a listing of these members.

Although growth in this area has been slower than some anticipated, it has been of a permanent kind. We have had only two resignations since last year while gaining 13.

E. F. PADDOCK, *Chairman*

## REPORT OF COMMITTEE ON TRAINING AND CERTIFICATION OF SCIENCE TEACHERS

The Committee on Training and Certification of Science Teachers under the chairmanship of Dr. John Buckingham drafted certain preliminary recommendations on February 25, 1961. In the light of: Dr. Ronneberg's communication of March 6, 1961, discussions with professional educators, and the "Guidelines on State Teacher Certification" which were distributed by Mr. Albert C. May of the State Department of Education, the committee again met on April 15, 1961, at which time it reconsidered and revised its recommendations, which were presented to the Cincinnati meeting of the Council of The Ohio Academy of Science on April 20, 1961. The Council voted to return the recommendations to the Committee for revision and to appoint a new chairman.

The Committee met in the Trustee's Room of the Battelle Memorial Institute in Columbus, Ohio, on Saturday, January 6, 1962, at 9:30 AM and revised its recommendations in the light of the NASDTEC-AAAS "Guidelines for Preparation Programs of Teachers of Secondary School Science and Mathematics" (1961) which had been circulated by Mr. May.

The Committee studies have been based upon the following tenets:

1. The present world-wide expansion of science and the increase of interest in science on the part of government leaders and the general public alike makes it mandatory that we raise the quality of science education at all levels in order to increase the scientific and mathematical literacy necessary for intelligent citizenship today.

2. Recognizing that the science teacher must be also a well-educated person, we in no wise wish to reduce the non-science course requirements, but we subscribe to the objectives as set forth on page 4 of the NASDTEC-AAAS "Guidelines." Science courses, taught with these objectives in mind, are not only essential for the preparation of well-qualified science teachers, but are also appropriate for inclusion in the program of general education.

3. The concept of teacher needs in science should be based upon consideration for and study of the needs of teachers in the schools, and upon a conception of a desirable secondary school science and mathematics program. All science teachers should have a broad back-

ground in the sciences and mathematics, as well as specialization within the field of science. Breadth of background is necessary for three main reasons. First, specialists in each field of science stress the need for study of related sciences for adequate understanding of the particular field. Second, since most high school science teachers, over a period of time, are assigned to teach several sciences, it is necessary to provide preparation in a variety of areas. Third, the teacher needs preparation in a variety of sciences so that he may in his teaching present a program that stresses for his students the interrelationships within and among the various fields and the significance of science as a human activity.

4. The current "Laws and Regulations" adopted by the State Board of Education on December 9, 1957, do not require sufficient education and training in science and mathematics judged by present day standards. For example, in the Elementary Education (Standard Certification) Section, page 17 and 18, a total of 11 hours of all science and mathematics are required compared with 18 hours of social studies. Also there is a wide disparity among the requirements for the various sciences in the Secondary Education Preparation. Mr. May stated in a memo to heads of Departments of Education, dated November 30, 1961, that, "In about two years we will be considering the revision of the elementary and secondary teacher regulations."

5. Our recommendations suggest minimum requirements which are below both the optimum recommendations of the NASDTEC-AAAS and the requirements adopted by the State of New York as publicly released on August 26, 1960.

6. The school boards and high school administrations should be made cognizant of the importance and rapidly changing nature of science which requires the alert teacher to read, study, attend meetings, etc., in an effort to keep updated. In addition, the large investment in science laboratories and science equipment should be fully exploited by providing the teacher adequate time to plan for their utmost utilization. His schedule should allow time for proper laboratory and demonstration planning and the teacher held accountable for doing a creditable job with the facilities available.

7. The Committee feels that the general attitude of the public toward science education is now such that the Academy should move with dispatch and vigor to implement the changes suggested in this report.

As a consequence of these studies the Committee now makes the following recommendations and asks that the Council and the Executive Committee of The Ohio Academy of Science take the steps necessary to encourage and implement their adoption.

#### A. RECOMMENDATIONS FROM THE COMMITTEE TO THE OHIO ACADEMY OF SCIENCE

- I. That a new Committee of the Academy be created and designated as The Ohio Academy of Science Committee on Education.
- II. That, with the formation of this new Committee the present one on Teacher Certification be discharged, but that some of the members of the present Committee could be included on the new Committee roster.
- III. That there are at present many areas of science education which need the Academy's attention. These include: improvement of science laboratory facilities and equipment; improvement of teacher loads and elimination of time consuming non-teaching duties; and improvement of professional orientation of science teachers.

#### B. RECOMMENDATIONS TO BE TRANSMITTED TO THE APPROPRIATE STATE AGENCIES FOR ACTION

##### I. CERTIFICATION REQUIREMENTS FOR SECONDARY SCHOOL SCIENCE TEACHERS

###### (A) *Provisional Certificate* to teach Secondary School Science in the State of Ohio.

- (1) That minimum requirements for a Science Major Certificate should be:
  - a. Bachelor's degree.
  - b. At least a 24 semester hour major in one of the six disciplines of science: chemistry, physics, botany, zoology (biology), earth science, and mathematics. General studies or survey types of science courses are specifically excluded.
  - c. At least 12 semester hours in another one of the above disciplines.
  - d. At least 8 semester hours in each of three of the remaining science and mathematics disciplines enumerated in b and not already required in b and c.

These requirements represent a total of 60 semester hours in science and mathematics.

- (2) That all existing science options for certification be eliminated and replaced by the Science Major category.
- (3) That no teacher be certified to teach more than his major plus one additional subject.
- (4) A science major meeting the requirement of (1) would be qualified to teach general science in addition to the specific subjects certified.

- (B) *Permanent Certificate* to teach Secondary School Science in the State of Ohio.
- (1) That requirements for the permanent certificate include in addition to the requirements for the Provisional Certificate, thirty (30) semester hours of work beyond the Bachelor's degree *at least half* of which must be in science subject matter areas pertaining to the teaching field.

II. CERTIFICATION REQUIREMENTS FOR ELEMENTARY SCHOOL TEACHERS.

That the certification include the following minima of courses as defined in I(A) (1)b.

- (1) Six (6) semester hours of biological science.
- (2) Six (6) semester hours of physical science and earth science.
- (3) Six (6) semester hours of mathematics.

III. CERTIFICATION REQUIREMENTS FOR ALL TEACHERS.

That in the near future all teachers certified in areas outside the sciences regardless of classification must have the following courses as defined in I(A) (1)b as minima in their training.

- (1) Six (6) semester hours of biological science.
- (2) Six (6) semester hours of physical science and earth science.
- (3) Six (6) semester hours of mathematics.

IV. IMPROVEMENTS IN SCIENCE TEACHING IN OHIO SECONDARY SCHOOLS.

- (1) That no science teacher be given a load requiring more than two different class preparations.
- (2) That each science teacher have scheduled at least one free period per day for laboratory and demonstration preparation.
- (3) That every science and mathematics teacher be granted time off, and travel expenses (if possible) to attend at least one meeting per year of a *professional scientific society*.

CHARLES A. RANDALL, *Chairman*

## REPORT OF THE RESOLUTIONS COMMITTEE

Be it resolved that the Academy extend a vote of thanks to President William S. Carlson, the faculty, students, and staff of The University of Toledo for making our 71st meeting one of the best meetings in our long history.

Be it resolved that we extend a vote of thanks to the general chairman, Archie N. Solberg, for making such excellent preparations for the meeting.

Be it resolved that the members of the Academy give to President Guy-Harold Smith, Secretary George W. Burns, and Treasurer, Robert M. Giesy, III, thanks for services rendered during the current year.

Be it resolved that Dr. John H. Melvin be especially commended for an outstanding rookie year as Executive Secretary.

Be it resolved that we commend the Vice Presidents from A-K, Drs. Putnam, Gambill, Forsyth, Schear, Randall, Bush, Johnson, Read, Dean, Redett, and Paddock for giving us a large number of papers of quality in their various sections.

Be it resolved that we give special recognition to Dr. Gerald Acker for fruits of his efforts in the Junior Academy and the Ohio Academy News.

Be it resolved that we commend Dr. W. A. Manuel for results accomplished in the Visiting Scientist Program.

Be it further resolved that we extend a vote of thanks to Dr. Henry L. Plaine, editor, Dr. Thomas H. Langlois, Dr. Richard A. Popham and the Administrative Board of *The Ohio Journal of Science* for regular editions of high quality.

JOHN H. COOPER, *Chairman*

## REPORT OF THE EXECUTIVE SECRETARY

Total membership of the Academy has reached an all-time high of 1916.

Our first Executive Secretary, Mr. Kenneth B. Hobbs, served for two years, resigning July 31, 1961. Mr. Hobbs did an exceptionally outstanding job in establishing the Central Office, making news contacts, assisting in increasing the membership, and in general, establishing a place where the scientists of Ohio, and beyond, can turn for information and assistance. I am sure we all wish him every success in his new undertaking with the National Aeronautics and Space Administration.

Your present Executive Secretary, within the limits of his ability, has assisted the officers and committees in the activities reported above.

JOHN H. MELVIN, *Executive Secretary*

## REPORT OF THE NECROLOGY COMMITTEE

In alphabetical order there is given here a roster of the deceased members of the Academy for the period of April, 1961, to May, 1962.

**Mr. William Henry Alexander** was from 1929 to 1941 the efficient and beloved Secretary of The Ohio Academy of Science. Hundreds of its members became well acquainted with this genial, white-haired officer. He also was the Director of the U. S. Weather Bureau in Columbus for 21 years, from 1916 to 1937.

Mr. Alexander was born in Cumby, Hopkins County, Texas, on January 10, 1867, and entered the Weather Bureau service on July 20, 1898, serving as the assistant director at Galveston until March 31, 1899. He was then transferred to San Juan, Puerto Rico, and for a time also at St. Kitts. In 1901 he returned to Galveston where he served until 1905. In that year he was made Director at Tyler, Texas, later being transferred to Burlington, Iowa, Baltimore, Cleveland, and finally Columbus.

In addition to his administrative duties as official in charge of the Columbus Bureau, Mr. Alexander made numerous contributions to meteorology and climatology. His most important work being "A Climatological History of Ohio," which was published by the Engineering College of The Ohio State University. He was a member of many scientific societies as well as President of The Ohio Academy of Science in 1921, Secretary from 1929 to 1941, and Historian from 1941 to 1955.

Mr. Alexander was married but his wife pre-deceased him by many years. They had two children who survive, Mrs. B. F. Lynip of Syracuse, New York, and Ralph G. Alexander, Rear Admiral, U. S. Navy (retired), Washington. Mr. Alexander was for years a staunch member of the Sons of the American Revolution and a 32nd Degree Mason. He passed away quietly of cardiac failure in Los Gatos, California, on October 9, 1960, aged 93 years, and was buried beside his wife in the Los Gatos Cemetery.

**Harry Atwood** was member of Section B, the Plant Sciences section of the Academy, since 1937. He had a long career in agricultural science and was graduated from The Ohio State University with the degree of B.S. in Agriculture in 1915, and in March 1927, he received a Master of Science in the same field from the University. He first taught vocational agriculture in high schools of Ohio under the extension program of The Ohio State University. Later he was appointed as a research worker in the U. S. Department of Agriculture being concerned chiefly with wheat rust and barberry eradication. For his work, he received certificates of appreciation for 20, 25, and 30 years of service. In January 1959 he was honored by the U. S. Department of Agriculture for 32 years of dedicated service to the American people in a citation by the Secretary of the Department in Washington.

In 1936 Mr. Atwood had been elected to Gamma Sigma Delta, the honorary agriculture society by the Ohio State Chapter.

On October 5, 1935, Mr. Atwood had married Miss Blanche Agle and they established their home at Hebron, Ohio. To this union there was no issue and Mrs. Atwood survives her husband at Hebron.

On July 16, 1960, Mr. Atwood suffered a fatal pulmonary thrombosis. His remains were buried in Fairmont Cemetery on Route 440 near Hebron.

**Dr. Carl H. Bayha**, a member of Section D, the Medical Science Section, and a physician in general practice of medicine in Toledo, Ohio, since 1929.

Dr. Bayha was born in Columbus, Ohio, on June 29, 1901, and received his elementary education in that city. He then matriculated at The Ohio State University and following his pre-medical training was graduated from the School of Medicine of The Ohio State University in 1925. He served an externship at King's County Hospital in New York and this was succeeded by his internship at the University Hospital, Columbus. He did post-graduate work at the Mayo Clinic in Rochester, Minnesota, for three years and finally came to Toledo, Ohio, and opened his practice in 1929.

Dr. Bayha was a member of the Academy of Medicine of Toledo and Lucas County and for two years its secretary, also the Ohio State Medical Society and the A.M.A. He served a term as Chief of Staff of Flower Hospital and was also on the staffs of the Toledo Hospital and Maumee Valley Hospital.

On October 22, 1930, Dr. Bayha married Miss Emilie Jaspersen. They had three children, William, David, and Judith Bayha.

He suffered a fatal attack of coronary thrombosis and died on June 27, 1961, and was buried in Woodlawn Cemetery, Toledo, Ohio.

**Dr. Floyd John Brinley**, a Fellow of Section A, since 1948 Professor of Zoology at The University of Toledo, where he had been on the faculty since 1946.

Dr. Brinley was born at Neosho, Missouri, on June 30, 1897, and was graduated with the Bachelor of Science degree at the University of Colorado in 1918. He was awarded the M.A. degree from the same university in 1919. He then entered the Graduate School of the University of Pennsylvania and received the Ph.D. degree in 1927.

He filled various academic positions as instructor at Penn, Professor at Battle Creek College, Michigan, Associate Professor of Zoology at North Dakota State Agricultural College, and then Biologist in the U. S. Public Health Service at various locations. During World War II, Dr. Brinley held the commission as major in the U. S. Army Sanitary Corps and contributed valuable

service in insect control in the South Pacific area from 1943 to 1946. Upon return to civil life, he was appointed Associate Professor of Zoology at The University of Toledo in 1946 and raised to the rank of Professor in 1950, which post he held until his demise in 1961.

In 1920 Dr. Brinley had married Miss Fay Johnson of Greeley, Colorado. They had one child, John F. Brinley, M.D. of Johns Hopkins University. Dr. Brinley was a Fellow of the National Research Council and the Society of Sigma Xi as well as numerous other scientific societies. He was the author of 35 professional papers covering a wide variety of biological investigations, the most recent being an article entitled "Survey of Pollution in Ohio Rivers and Plankton Distribution."

As a sequel to a severe attack of endocarditis in 1960, Dr. Brinley passed away on September 30, 1961, of cardiac failure in Toledo and was later buried in Fort Logan Cemetery at Denver, Colorado.

**Dr. Martin H. Fischer**, a member of Section D of the Academy since 1910 and a Fellow since 1920, was from 1910 to 1950 the Professor of Physiology in the Medical School of Cincinnati University and Emeritus from 1950 to 1962.

Dr. Fischer had a long life filled with rich professional experience. He was born in Kiel, Germany, on November 10, 1879. He came to the United States in 1885 with his parents, who settled in Chicago. Martin's elementary education through high school was secured in the local public schools. He was admitted to Rush Medical College and graduated with the M.D. degree in 1910. He served as Assistant in Pathology in his Medical School until his graduation and then became a Fellow in that Department. In 1910 he was awarded a Holmes Scholarship and studied in the summers at Woods Hole, Massachusetts. From 1902 to 1903 he was Assistant in Physiology at the University of Chicago and in 1903 at the University of California where he was Assistant Professor until he resigned in 1905 to become Professor of Pathology at the Oakland School of Medicine. He remained there until 1910 when he accepted the Professorship of Physiology at Cincinnati and remained there until his death. He was also Visiting Professor at Harvard and New York University.

On May 6, 1903, Dr. Fischer had married Miss Charlotte Rust Leonard, who preceded him in death on June 14, 1960. The Fischers had no children.

Dr. Fischer was the author of many scientific papers and books as well as an artist of note. His chief works in science are *Edema and Nephritis*, *Lyophilic Colloids*, *Death and Dentistry*, and *Der Kolloide Aufbau der Lebenden Substanz*. A book on art is *The Permanent Palette* and his paintings have won a place in numerous galleries.

He was the recipient of many honors and a member of many scientific societies as well as art clubs. He received honorary degrees from Wittenberg College and Cincinnati universities and won prizes given by the American College of Physicians and Columbia University, the American Medical Association, and the International Prize of the German Kolloid-Gesellschaft. Dr. Fischer bequeathed his books, papers and writings to Wittenberg University and his real estate to the University of Cincinnati. The monetary estate was left to his three nephews and friends as well as the Cincinnati Art Club and the Literary Club.

He died in his own home suffering for some months with a carcinoma but succumbed suddenly on January 19, 1962, of a coronary thrombosis. He was buried in Spring Grove Cemetery, Cincinnati.

**Dr. Edward J. Karlin**, a member of Section A since 1958, was Assistant Professor of Zoology at Bowling Green State University.

Dr. Karlin was born in New York City on February 22, 1930, and after a public school education was graduated with a Bachelor of Science degree from New York City College. Later he secured his Master's degree at the University of Minnesota and his Ph.D. from Cornell University.

He was appointed Instructor in Biology at Bowling Green State University in 1957 and in 1961 was promoted to the rank of Assistant Professor. On August 29, 1959, Dr. Karlin had married Miss Janey Klein. She and a daughter, Kathryn, survive him.

He was a member of the Society of Sigma Xi and also of the Ecological Society of America and the Malacological Union. He had received a research grant from the American Philosophical Society and was especially a student of snails, slugs, and thrips. In his relatively short life, he had published nine scientific papers. Several of these were of economic importance to greenhouse operators in the control of slugs and thrips. His doctoral thesis, "The Ecology of *Vitrina limpida* Gould," was published in *Nautilus* in 1957.

Dr. Karlin died in Bowling Green of carcinoma on April 24, 1962, with later cremation and dissemination of his remains.

**Alonzo W. Marion** was a member of Section J, Conservation, since 1950 and was made a Fellow of the Academy in 1953. He was a former State Director of Agriculture and the first Director for the State of Ohio's Department of Conservation. He lived at Canal Winchester, Ohio.

Mr. Marion was born near Circleville, Ohio, in 1904, and after a public school education matriculated in The Ohio State University and was graduated with the degree of Bachelor of Science in Agriculture in 1926. He later did graduate work at the University of Wisconsin in live-stock breeding and crop improvement.

He was employed by the State of Ohio for 17 years in the State's Agricultural Extension Service. This work was interrupted by World War II in which he served for four and one-half years as an artillery officer in the U. S. Army. He returned to his State position in civil life and was retired in 1957. From then on he directed the educational program for the Producers'



Cooperative Livestock Association for the production of better market grades of livestock through selective breeding. At the time of his death, he was Director of the Ohio Area of the Federal Farmers' Home Administration. He was a valued member of the Academy, not only for his scientific achievements, but was active in bringing many persons into membership of the Academy for the conservation of the country's natural resources.

Mr. Marion had married the former Ruth Mary Macklin. She, a daughter, Jane (Mrs. Neil F. Miller of California), and his mother survive him.

He died suddenly of coronary thrombosis on February 17, 1962, and was buried at Groveport, Ohio.

**Dr. William John McCaughey** was a member of Section C, Geology, since 1926 and was elected to Fellowship in the Academy in 1929. Since 1911, he was on the Staff of the Department of Mineralogy at The Ohio State University and from 1916 to his retirement in 1952 was Chairman of the Department.

Dr. McCaughey was born in Philadelphia on June 21, 1882, and received his Bachelor's degree at the University of Pennsylvania in 1906. He then entered the Graduate School at George Washington University and received the Ph.D. degree in 1912. Before coming to Ohio, he was employed by the U. S. Bureau of Soils.

As stated above, he was a distinguished professor at The Ohio State University for many years. In 1954 he received the Bleining Memorial Award from the American Ceramic Society. In 1952 he was given an honorary Doctor of Science by The Ohio State University and a 50 year membership from the American Chemical Society. He was a member of numerous professional societies and honorary fraternities and a contributor of many articles on mineralogy to scientific journals.

He is survived by his wife, the former Miss Emma Ricketts Wilson, a brother and sister in Florida, two children, Mrs. Elizabeth Wruewald of Knoxville, Tennessee, and Mrs. Charles Kohler of Marietta, Georgia, and four grandchildren.

Dr. McCaughey died on April 18, 1962, of hemorrhage due to a perforated peptic ulcer. He was buried in Union Cemetery, Columbus, Ohio.

**William J. Ohland** became a member of Section D, Medical Sciences, in 1960 and as a drug salesman for the DePree Pharmaceutical Company of Holland, Michigan, was an enthusiastic member of the section, although he lived in Ann Arbor, Michigan.

Mr. Ohland was born in Nutley, New Jersey, on April 14, 1902. He was graduated with the B.A. degree from New York University in 1926 and the B.S. in Pharmacy from Rutgers University a few years later. He was a life member of the American Association for the Advancement of Science. He lived in Wisconsin, Indiana, and Michigan in his adult years as a pharmaceutical salesman, being with the DePree Company for the past four years.

Mr. Ohland was a member of the American Pharmaceutical Association, the American Public Health Association, the Indiana Public Health Association, the Michigan Society of Gerontology, the Elks Lodge, the Detroit Yacht Club, and Zion Lutheran Church in Ann Arbor.

He is survived by a son, William M. Ohland in Canton, Texas, and his fiancée, Miss Ida M. Johnson of Ann Arbor, whom he was to have married last fall. Also surviving are two brothers in Nutley, New Jersey.

Mr. Ohland was stricken with a severe attack of coronary thrombosis in Fort Wayne, Indiana, in November 1960, but after a long illness of cardiac insufficiency died in St. Joseph's Hospital, Ann Arbor, Michigan, on August 16, 1961. Services were held in Ann Arbor, Michigan, and Nutley, New Jersey, with interment in Weehawken, New Jersey.

**Cecil Riser**, a member of Section H, Science Education, and a science teacher in the Marysville, Ohio, High School for many years.

Mr. Riser was born in Cincinnati on June 12, 1906, and educated in that city's public schools. He was graduated from Cincinnati University about 1930 with the B.Sc. degree. He taught science in the schools of his native city for about four years and then came to Marysville about 1934 and remained until his death, almost 27 years. For most of this period, he taught in the Marysville High School having facility in biology, chemistry, and physics. For several seasons he attended summer sessions at the University of New Mexico and also carried on a graduate program at The Ohio State University, where he received the M.Sc. degree in 1950.

On December 24, 1941, Mr. Riser married Miss Ella Belle, by whom he had three children, Eve Riser, a student at Miami University, and James and Bruce at home in Marysville.

He was a member of the American Chemical Society, The Ohio Academy of Science, the Marysville Board of Public Affairs, the Lions Club, and the Methodist Church. He was active in student affairs in the high school and advisor to several group activities as well as the school newspaper and year book. In 1950 he was voted by the science teachers of the state as the Outstanding High School Teacher in Ohio.

Mr. Riser died on May 29, 1961, following surgery for acute peritonitis due to rupture of the colon by an invasive carcinoma. He was buried in Oakdale Cemetery in Marysville, Ohio.

In analysis of the 1962 necrology report, we find that heart and circulatory disease has accounted for 6 of the 10 deaths, while cancer was the cause of death for two and infection following a perforated ulcer accounted for one. Thus in spite of the vast accumulation of knowledge in recent years due to intensive research, deaths due to heart and circulatory disease still lead in our western civilization.

H. H. M. BOWMAN, *Chairman*